Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the present application.

Listing of Claims

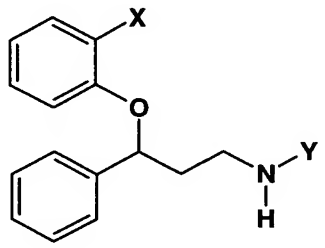
1. (currently amended) A method of treating a learning disability or a Motor Skills Disorder, comprising administering to a patient in need of such treatment an effective amount of a norepinephrine reuptake inhibitor selected from the group consisting of~~:~~

atomoxetine or a pharmaceutically acceptable salt thereof~~;~~ and

~~racemic reboxetine or a pharmaceutically acceptable salt thereof;~~

~~(S,S) reboxetine or a pharmaceutically acceptable salt thereof;~~

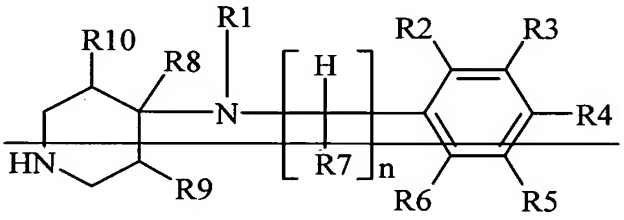
a compound of formula (I):



(I)

wherein X is C_1-C_4 alkylthio, and Y is C_1-C_2 alkyl, or a pharmaceutically acceptable salt thereof~~;~~.

~~a compound of formula (IA):~~

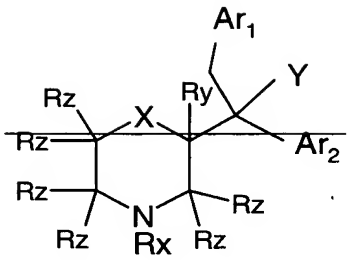


(IA)

~~wherein n is 1, 2 or 3; R1 is C_2-C_{10}alkyl, C_2-C_{10}alkenyl, C_3-C_8cycloalkyl or C_4-C_{10}cycloalkylalkyl, wherein one C-C bond within any cycloalkyl moiety is optionally substituted by an O-C or C=C bond and wherein each group is optionally substituted with from 1 to 7 halogen substituents and/or with from 1 to 3 substituents each independently~~

~~selected from hydroxy, cyano, C_1-C_4alkyl and C_1-C_4alkoxy; R2 is H, C_1-C_4alkyl (optionally substituted with from 1 to 7 halogen atoms), C_1-C_4alkyl-$S(O)_x$- wherein x is 0, 1 or 2 (optionally substituted with from 1 to 7 halogen atoms), C_1-C_4alkoxy (optionally substituted with from 1 to 7 halogen atoms), cyano, halogen, phenyl (optionally substituted with from 1 to 3 substituents each independently selected from halogen, C_1-C_4alkyl and C_1-C_4alkoxy), phenoxy (optionally substituted with from 1 to 3 substituents each independently selected from halogen, C_1-C_4alkyl and C_1-C_4alkoxy) or -CO_2(C_1-C_4alkyl), or together with R3 forms a further benzene ring (optionally substituted with from 1 to 3 substituents each independently selected from halogen, C_1-C_4alkyl and C_1-C_4alkoxy); R3 is H, C_1-C_4alkyl (optionally substituted with from 1 to 7 halogen atoms), C_1-C_4alkyl-$S(O)_x$- wherein x is 0, 1 or 2 (optionally substituted with from 1 to 7 halogen atoms), C_1-C_4alkoxy (optionally substituted with from 1 to 7 halogen atoms), cyano, halogen, phenyl (optionally substituted with from 1 to 3 substituents each independently selected from halogen, C_1-C_4alkyl and C_1-C_4alkoxy), phenoxy (optionally substituted with from 1 to 3 substituents each independently selected from halogen, C_1-C_4alkyl and C_1-C_4alkoxy) or -CO_2(C_1-C_4alkyl), or together with R2 or R4 forms a further benzene ring (optionally substituted with from 1 to 3 substituents each independently selected from halogen, C_1-C_4alkyl and C_1-C_4alkoxy); R4 is H, C_1-C_4alkyl (optionally substituted with from 1 to 7 halogen atoms), C_1-C_4alkyl-$S(O)_x$- wherein x is 0, 1 or 2 (optionally substituted with from 1 to 7 halogen atoms), C_1-C_4alkoxy (optionally substituted with from 1 to 7 halogen atoms), cyano, halogen, phenyl (optionally substituted with from 1 to 3 substituents each independently selected from halogen, C_1-C_4alkyl and C_1-C_4alkoxy), phenoxy (optionally substituted with from 1 to 3 substituents each independently selected from halogen, C_1-C_4alkyl and C_1-C_4alkoxy) or -CO_2(C_1-C_4alkyl), or together with R3 forms a further benzene ring (optionally substituted with from 1 to 3 substituents each independently selected from halogen, C_1-C_4alkyl and C_1-C_4alkoxy); R5 is H, C_1-C_4alkyl (optionally substituted with from 1 to 7 halogen atoms), C_1-C_4alkoxy (optionally substituted with from 1 to 7 halogen atoms) or halogen; R6 is H, C_1-C_4alkyl (optionally substituted with from 1 to 7 halogen atoms), C_1-C_4alkoxy (optionally substituted with from 1 to 7 halogen atoms) or halogen; R7 is H or C_1-C_4alkyl; R8 is H or C_1-C_4alkyl; R9 is H, halogen, hydroxy, cyano, C_1-C_4alkyl or C_1-C_4alkoxy; and R10 is H, halogen, hydroxy, cyano, C_1-C_4alkyl or C_1-C_4alkoxy; or a pharmaceutically acceptable salt thereof, with the proviso that the compound N-ethyl-N-benzyl-4-piperidinamine is excluded;~~

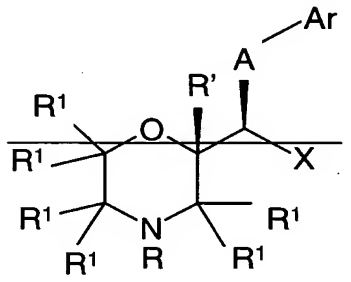
~~a compound of formula (IB):~~



~~(IB)~~

~~wherein Rx is H; Ry is H or C_1-C_4 alkyl; each Rz is independently H or C_1-C_4 alkyl; X represents O; Y represents OH or OR; R is C_1-C_4 alkyl; Ar_1 is a phenyl ring or a 5- or 6-membered heteroaryl ring each of which may be substituted with 1, 2, 3, 4 or 5 substituents (depending upon the number of available substitution positions) each independently selected from C_1-C_4 alkyl, O(C_1-C_4 alkyl), S(C_1-C_4 alkyl), halo, hydroxy, pyridyl, thiophenyl and phenyl optionally substituted with 1, 2, 3, 4 or 5 substituents each independently selected from halo, C_1-C_4 alkyl, or O(C_1-C_4 alkyl); and Ar_2 is a phenyl ring or a 5- or 6-membered heteroaryl ring each of which may be substituted with 1, 2, 3, 4 or 5 substituents (depending upon the number of available substitution positions) each independently selected from C_1-C_4 alkyl, O(C_1-C_4 alkyl) and halo; wherein each above mentioned C_1-C_4 alkyl group is optionally substituted with one or more halo atoms; or a pharmaceutically acceptable salt thereof;~~

~~a compound of formula (IC)~~

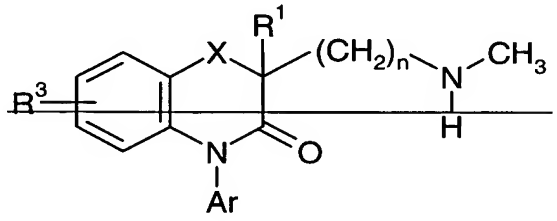


~~(IC)~~

~~wherein: A is S or O; R is H; Ar is a phenyl group optionally substituted with 1, 2, 3, 4 or 5 substituents each independently selected from C_1-C_4 alkyl, O(C_1-C_4 alkyl), S(C_1-C_4 alkyl), halo, hydroxy, CO_2(C_1-C_4 alkyl), pyridyl, thiophenyl and phenyl optionally substituted with 1, 2, 3, 4 or 5 substituents each independently selected from halo, C_1-C_4 alkyl, or O(C_1-C_4 alkyl); X is a phenyl group optionally substituted with 1, 2, 3, 4 or 5 substituents each independently selected from halo, C_1-C_4 alkyl, or O(C_1-C_4 alkyl); a C_1-C_4~~

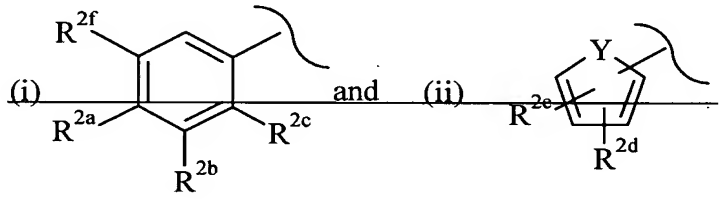
~~alkyl group; a C_3-C_6-cycloalkyl group or a CH_2(C_3-C_6-cycloalkyl) group; R' is H or C_1-C_4 alkyl; each R^1 is independently H or C_1-C_4-alkyl; wherein each above-mentioned C_1-C_4 alkyl group is optionally substituted with one or more halo atoms; or a pharmaceutically acceptable salt thereof; with the proviso that, when A is O, X is a C_1-C_4-alkyl group, a C_3-C_6 cycloalkyl group or a CH_2(C_3-C_6-cycloalkyl) group;~~

~~a compound of formula (ID)~~



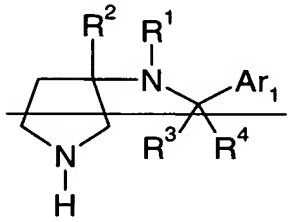
~~(ID)~~

~~wherein X is $C(R^4R^5)$, O or S; n is 2 or 3; R^1 is H or C_1-C_4-alkyl; R^3 is H, halo, C_1-C_4 alkyl, O(C_1-C_4-alkyl), nitrile, phenyl or substituted phenyl; R^4 and R^5 are each independently selected from H or C_1-C_4-alkyl; Ar is selected from the group consisting of~~



~~in which R^{2a} is H, halo, methyl or ethyl; R^{2b} is H, halo or methyl; R^{2c} is H, halo, methyl, trifluoromethyl, nitrile, or methoxy; R^{2d} is H, halo, methyl or ethyl; R^{2e} is H, halo, methyl, trifluoromethyl, nitrile, or methoxy; R^{2f} is H, or fluoro; Y is O, S or N(R^6); and R^6 is H or methyl or a pharmaceutically acceptable salt thereof;~~

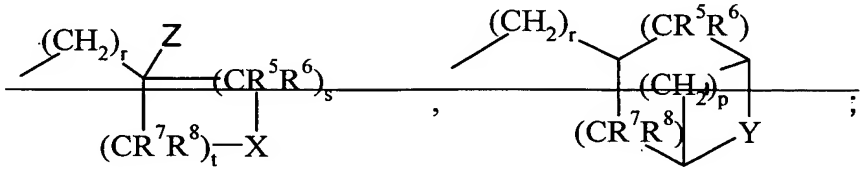
~~a compound of formula (IE)~~



~~(IE)~~

~~wherein R^1 is C_1-C_6 alkyl (optionally substituted with 1, 2 or 3 halo substituents and/or with 1 substituent selected from S-(C_1-C_3 alkyl), O-(C_1-C_3 alkyl) (optionally substituted with 1, 2~~

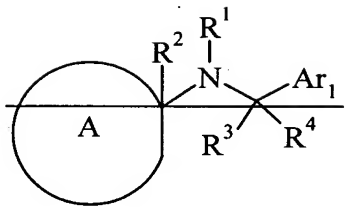
or 3 F atoms), -O-(C_3-C_6 cycloalkyl), -SO_2-(C_1-C_3 alkyl), -CN, -COO-(C_1-C_2 alkyl) and -OH); C_2-C_6 alkenyl; -$(CH_2)_q$-Ar_2; or a group of formula (i) or (ii)



(i) (ii)

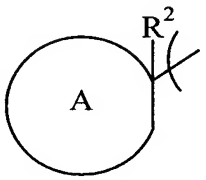
R^2, R^3 and R^4 are each independently selected from hydrogen or C_1-C_2 alkyl; R^5, R^6, R^7 and R^8 are at each occurrence independently selected from hydrogen or C_1-C_2 alkyl; X is a bond, CH_2, CH=CH, O, S, or SO_2; Y is a bond, CH_2 or O; Z is hydrogen, OH or O-(C_1-C_3 alkyl); p is 0, 1 or 2; q is 0, 1 or 2; r is 0 or 1; s is 0, 1, 2 or 3; t is 0, 1, 2 or 3; Ar_1 is phenyl, pyridyl, thiazolyl, benzothiophenyl or naphthyl; wherein said phenyl, pyridyl or thiazolyl group may be substituted with 1, 2 or 3 substituents each independently selected from halo, cyano, C_1-C_4 alkyl (optionally substituted with 1, 2 or 3 F atoms), -O-(C_1-C_4 alkyl) (optionally substituted with 1, 2 or 3 F atoms) and -S-(C_1-C_4 alkyl) (optionally substituted with 1, 2 or 3 F atoms) and/or with 1 substituent selected from pyridyl, pyrazole, phenyl (optionally substituted with 1, 2 or 3 halo substituents) and phenoxy (optionally substituted with 1, 2 or 3 halo substituents); and wherein said benzothiophenyl or naphthyl group may be optionally substituted with 1, 2 or 3 substituents each independently selected from halo, cyano, C_1-C_4 alkyl (optionally substituted with 1, 2 or 3 F atoms), -O-(C_1-C_4 alkyl) (optionally substituted with 1, 2 or 3 F atoms), and -S-(C_1-C_4 alkyl) (optionally substituted with 1, 2 or 3 F atoms); Ar_2 is naphthyl, pyridyl, thiazolyl, furyl, thiophenyl, benzothiophenyl, or phenyl, wherein said naphthyl, pyridyl, thiazolyl, furyl, thiophenyl, benzothiophenyl, or phenyl may be substituted with 1, 2 or 3 substituents each independently selected from halo, C_1-C_4 alkyl (optionally substituted with 1, 2 or 3 F atoms) and -O-(C_1-C_4 alkyl) (optionally substituted with 1, 2 or 3 F atoms); or a pharmaceutically acceptable salt thereof; provided that (a) the cyclic portion of the group of formula (i) must contain at least three carbon atoms and not more than seven ring atoms; (b) when X is CH=CH, then the cyclic portion of the group of formula (i) must contain at least five carbon atoms; and (c) when Z is OH or -O-(C_1-C_3 alkyl), then X is CH_2; (d) when Y is O then p cannot be 0; and (e) the compound 3-[(phenylmethyl)-(3S)-3-pyrrolidinylamino]-propanenitrile is excluded;

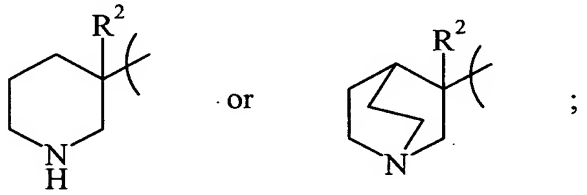
a compound of formula (IF)



~~(IF)~~

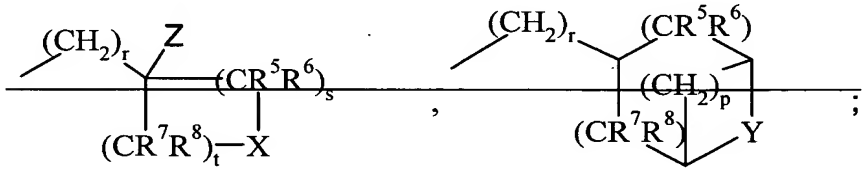
~~wherein~~

 is a group of formula (a) or (b)



~~(a)~~ ~~(b)~~

~~R^1 is C_1-C_6 alkyl (optionally substituted with 1, 2 or 3 halo substituents and/or with 1 substituent selected from -S-(C_1-C_3 alkyl), -O-(C_1-C_3 alkyl) (optionally substituted with 1, 2 or 3 F atoms), -O-(C_3-C_6 cycloalkyl), $-SO_2$-(C_1-C_3 alkyl), -CN, -COO-(C_1-C_2 alkyl) and -OH); C_2-C_6 alkenyl; $-(CH_2)_q-Ar_2$; or a group of formula (i) or (ii)~~

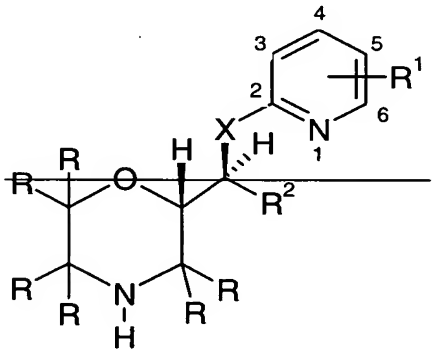


~~(i)~~ ~~(ii)~~

~~R^2, R^3 and R^4 are each independently selected from hydrogen or C_1-C_2 alkyl; R^5, R^6, R^7 and R^8 are at each occurrence independently selected from hydrogen or C_1-C_2 alkyl; X is a bond, $-CH_2-$, -CH=CH-, -O-, -S-, or $-SO_2-$; Y is a bond, $-CH_2-$ or -O-; Z is hydrogen, -OH or -O-(C_1-C_3 alkyl); p is 0, 1 or 2; q is 0, 1 or 2; r is 0 or 1; s is 0, 1, 2 or 3; t is 0, 1, 2 or 3; Ar_1 is phenyl, pyridyl, thiazolyl, benzothiophenyl or naphthyl; wherein said phenyl, pyridyl or thiazolyl group may be substituted with 1, 2 or 3 substituents each independently selected from halo, cyano, C_1-C_4 alkyl (optionally substituted with 1, 2 or 3 F atoms), -O-(C_1-C_4 alkyl)~~

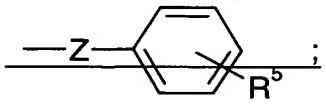
~~(optionally substituted with 1, 2 or 3 F atoms) and -S-(C_1-C_4 alkyl) (optionally substituted with 1, 2 or 3 F atoms) and/or with 1 substituent selected from pyridyl, pyrazole, phenyl (optionally substituted with 1, 2 or 3 halo substituents), benzyl and phenoxy (optionally substituted with 1, 2 or 3 halo substituents); and wherein said benzothiophenyl or naphthyl group may be optionally substituted with 1, 2 or 3 substituents each independently selected from halo, cyano, C_1-C_4 alkyl (optionally substituted with 1, 2 or 3 F atoms), -O-(C_1-C_4 alkyl) (optionally substituted with 1, 2 or 3 F atoms), and -S-(C_1-C_4 alkyl) (optionally substituted with 1, 2 or 3 F atoms); Ar_2 is naphthyl, pyridyl, thiazolyl, furyl, thiophenyl, benzothiophenyl, or phenyl, wherein said naphthyl, pyridyl, thiazolyl, furyl, thiophenyl, benzothiophenyl, or phenyl may be substituted with 1, 2 or 3 substituents each independently selected from halo, C_1-C_4 alkyl (optionally substituted with 1, 2 or 3 F atoms) and -O-(C_1-C_4 alkyl) (optionally substituted with 1, 2 or 3 F atoms); or a pharmaceutically acceptable salt thereof; provided that (a) the cyclic portion of the group of formula (i) must contain at least three carbon atoms and not more than seven ring atoms; (b) when -X- is -CH=CH-, then the cyclic portion of the group of formula (i) must contain at least five carbon atoms; and (c) when -Z is -OH or -O-(C_1-C_3 alkyl), then -X- is -CH_2-; and (d) when -Y- is -O- then p cannot be 0; and~~

~~a compound of formula (IG)~~



~~(IG)~~

~~wherein -X- is -S- or -O-; each R is independently selected from H or C_1-C_4 alkyl; R^1 is H, C_1-C_4 alkyl, C_1-C_4 alkoxy, halo, cyano, trifluoromethyl, trifluoromethoxy, $-NR^3R^4$, $-CONR^3R^4$, $-COOR^3$ or a group of the formula (i)~~



(i)

~~R^2 is C_1-C_4 alkyl, phenyl or phenyl substituted with 1, 2 or 3 substituents each independently selected from C_1-C_4 alkyl, C_1-C_4 alkoxy, nitro, hydroxy, cyano, halo, trifluoromethyl, trifluoromethoxy, benzyl, benzyloxy, NR^6R^7, $CONR^6R^7$, $COOR^6$, $SO_2NR^6R^7$ and SO_2R^6; R^5 is selected from C_1-C_4 alkyl, C_1-C_4 alkoxy, carboxy, nitro, hydroxy, cyano, halo, trifluoromethyl, trifluoromethoxy, benzyl, benzyloxy, NR^8R^9, $CONR^8R^9$, $SO_2NR^8R^9$ and SO_2R^8; R^3, R^4, R^6, R^7, R^8 and R^9 are each independently selected from H or C_1-C_4 alkyl; and Z is a bond, CH_2, or O;~~

~~or a pharmaceutically acceptable salt thereof.~~

2. (cancelled)

3. (currently amended) The method of claim 1 ~~or the use of claim 2~~, wherein said learning disability is selected from the group consisting of a developmental speech and language disorder and a learning disorder.

4. (currently amended) The method ~~or use~~ of claim 3, wherein said developmental speech and language disorder is selected from the group consisting of developmental articulation disorder, developmental expressive language disorder, and developmental receptive language disorder.

5. (currently amended) The method ~~or use~~ of claim 3, wherein said learning disorder is selected from the group consisting of reading disorder, mathematics disorder, disorder of written expression, and learning disorder not otherwise specified.

6. (currently amended) The method of ~~any one of claims~~ claim 1, ~~3, 4, or 5, or the use of any one of claims 2, 3, 4, or 5,~~ wherein said norepinephrine reuptake inhibitor is atomoxetine hydrochloride.

7. (new) The method of claim 3, wherein said norepinephrine reuptake inhibitor is atomoxetine hydrochloride.

8. (new) The method of claim 4, wherein said norepinephrine reuptake inhibitor is atomoxetine hydrochloride.

9. (new) The method of claim 5, wherein said norepinephrine reuptake inhibitor is atomoxetine hydrochloride.